

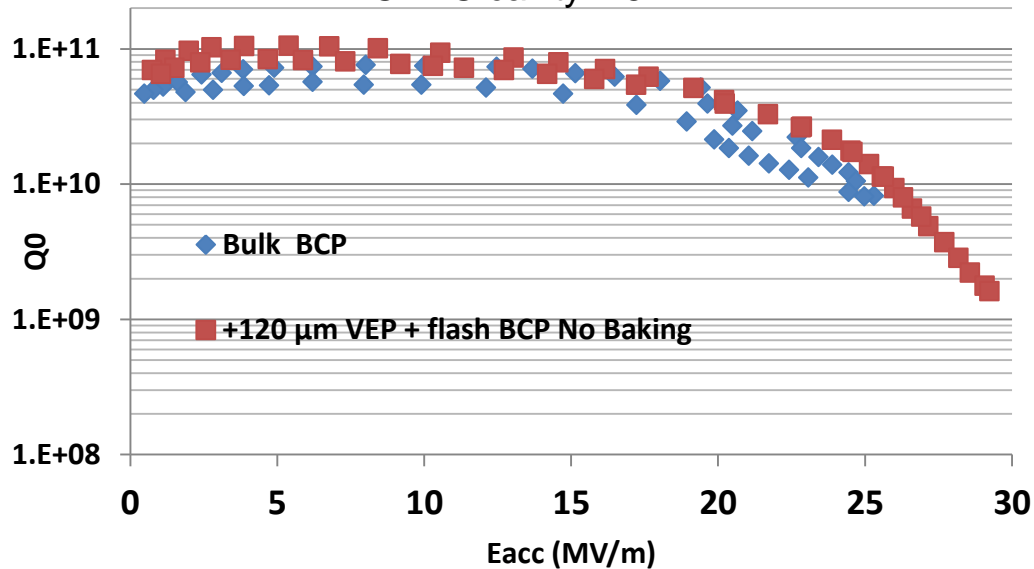
Vertical Electro-Polishing at CEA Saclay: update January 22th 2014

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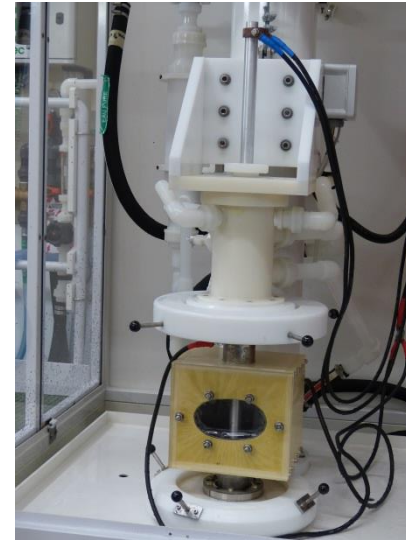
Nice Q0 after VEP on 1AC1 cavity

1AC1 1C cavity 1.3 – 1.7K



1AC1 baking at 115°C

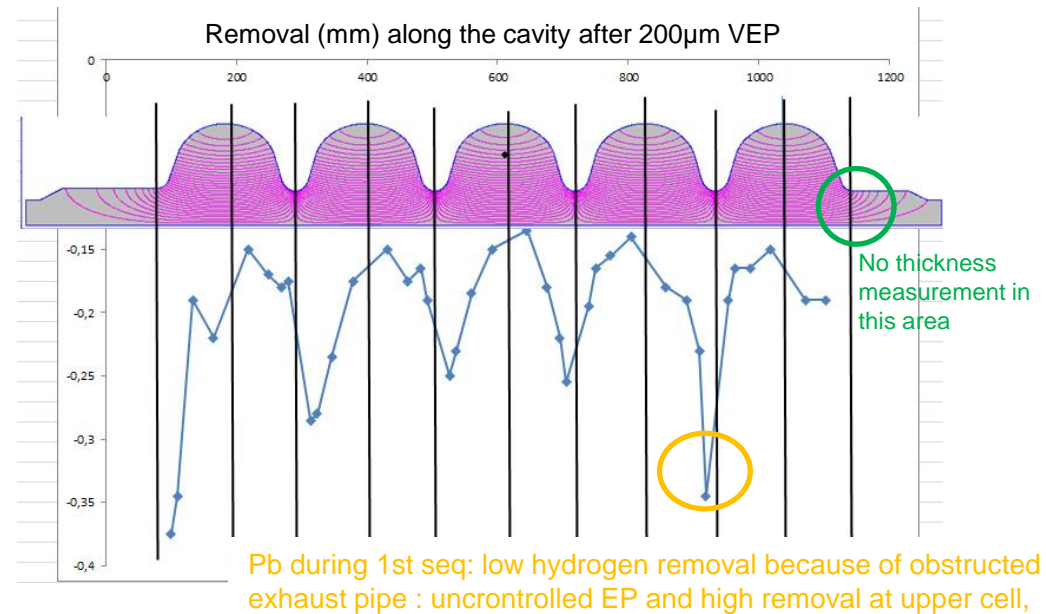
- 1AC1 baked at 115°C Test Week#4
- 1AC2 baked at 115°C after VEP Test Week#5
- 1AC3 (Quench at 35MV/m): Replica of the inner surface of the cavity
 - Morphology depends on location in the cell
 - Outlook: Quench area morphology & Ra at different locations



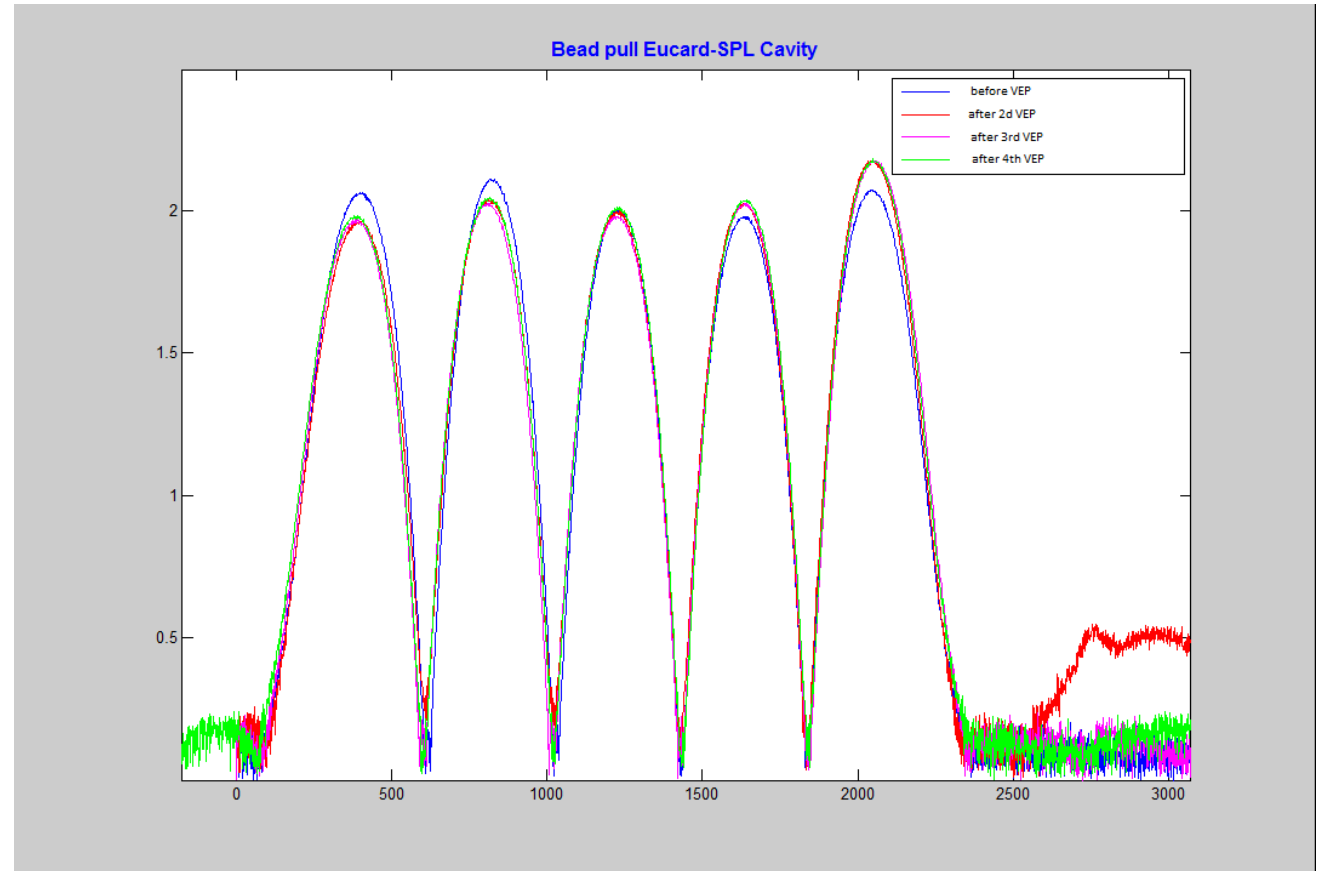
- Set-up to investigate inner surface of the cavity during VEP:
1.3 GHz 1C cavity cut and embedded in resin
- Goal: investigate the effect of the acid flow, viscous layer during VEP
- Explanation for asymmetry?

First test with acid ($\text{\O}30\text{mm}$ rod cathode):

- Hydrogen bubbles flow alongside the cathode
- Air bubbles might be trapped at the cavity surface if the acid flow is too high during filling



- 4 sequences with turning of the cavity in between
- Exhaust problem discovered (acid condensation) and solved
- 200 µm average removal
- Resulting removal ratio equator/iris ~ 1/2



- Field flatness modified after uncontrolled VEP
- Once the problem solved, no field flatness modification